

advantage of digital television's technological flexibility by broadcasting multiple program streams in order to bring new services to the public that could not be made available under the constraints of a single analog program stream.³⁹⁴ APTS cites examples of multicasting that have expanded public television programming distribution of children's educational programming, formal education services and workforce development services, locally oriented public affairs programming, and programming aimed at traditionally unserved or underserved communities, such as the elderly.³⁹⁵

114. **Datacasting and Subscription Services.** DTV also allows broadcasters to use part of their digital bandwidth for subscription video, datacasting, and other pay services.³⁹⁶ These services can be provided simultaneously with HD or SD digital television programs, and can provide delivery of virtually any type of data, audio, or video, including text, graphics, software, web pages, video-on-demand,³⁹⁷ and niche programming.³⁹⁸

115. Last year, we reported on the activities of U.S. Digital Television, Inc. ("USDTV"), which combined broadcast spectrum licensed to a number of broadcasters to create subscription video

³⁹⁴ APTS Comments at 5.

³⁹⁵ *Id.* at 5-8.

³⁹⁶ Commercial and noncommercial educational DTV broadcast station licensees report annually, using Form 317, whether they have provided ancillary or supplementary services at any time during the 12 month period preceding September 30. Licensees that earn revenues from such services are required to pay fees to the Commission. *FCC Annual DTV Ancillary/ Supplementary Services Report*, 18 FCC Rcd 23972 (2003). See also 47 U.S.C. § 336 (a), (e). To date, the provision of ancillary and supplementary services has been modest, as indicated in the following chart:

<u>YEAR</u>	<u>NUMBER OF DTV LICENSEES THAT REPORTED FEEABLE SERVICES</u>	<u>GROSS REVENUES FROM FEEABLE SERVICES</u>	<u>FEES COLLECTED FROM FEEABLE SERVICES</u>
1999	0	\$0	\$0
2000	4	\$570,000	\$28,500
2001	2	\$390,000	\$19,500
2002	6	\$148,280	\$7,414
2003	3	\$45,000	\$2,250
2004	10	\$78,625	\$3,931
2005	11	\$176,777	\$8,839
2006	36	\$687,424	\$34,371

Source: FCC Form 317.

³⁹⁷ Video-on-demand via over-the-air broadcast signals may be provided several ways. Broadcasters may use a model similar to that contemplated by DBS operators whereby VOD programming is broadcast and then stored in a local DVR. With the addition of an Internet connection, it is also possible to provide true VOD using broadcast spectrum for the downstream transmission of video and an Internet connection for the comparatively low-bandwidth control signals.

³⁹⁸ See 2004 Report, 20 FCC Rcd at 2807-8 ¶ 84.

distribution via DTV streams.³⁹⁹ On November 10, 2006, USDTV announced that NextGen Telecom, LLC had acquired its assets and would continue to offer a multichannel video programming service including 20-30 broadcast and nonbroadcast programming channels for \$19.95 per month using local over-the-air DTV spectrum in Salt Lake City, Las Vegas, Albuquerque, and Dallas.⁴⁰⁰ However, on March 5, 2007, USDTV discontinued service due to the withdrawal of funding from its major investor, who experienced a financial setback in an unrelated business.⁴⁰¹

116. APTS indicates that some public television stations are employing datacasting for supplemental educational programming and public safety purposes.⁴⁰² For example, New Jersey Network's 21st Century Digital Classroom program and WHYY, licensed to Philadelphia, Pennsylvania, are using datacasting to deliver media-rich video content over the air to students, teachers, and adults in classrooms and libraries.⁴⁰³ Specifically, students can access educational videos from multiple libraries on classroom computers through a single portal. The content includes multimedia K-12 curricula, professional development, and adult education, and workforce training materials.⁴⁰⁴ In addition, WHYY is datacasting adult education material, including 58 half-hour video segments and more than 700 pages of text which are delivered to desktop computers in libraries, community centers, and colleges.⁴⁰⁵ Rocky Mountain PBS is working with the Colorado Department of Labor and Employment and the University of Colorado Health Sciences Center to enhance the education of healthcare professionals. For example, the Center's emergency room simulations and training sessions are being delivered via datacasting to classrooms, homes, and office computers.⁴⁰⁶

117. APTS also believes public television stations will play an important role in supporting a national and local digital broadcast emergency alert system ("EAS") through the digital interconnection infrastructure public broadcasting is developing.⁴⁰⁷ APTS cites several public television stations and local networks that have already pioneered public safety datacasting networks, such as those in Kentucky, New Jersey, Nashville, New York City, Cincinnati, and Rochester, New York.⁴⁰⁸ APTS asserts that public

³⁹⁹ See 2005 Report, 21 FCC Rcd at 2556 ¶ 106.

⁴⁰⁰ *NexGen Telecom Acquires USDTV Assets and Continues Providing Unique Over-the-Air Cable Alternative* (press release), at <http://www.usdtv.com/about/release-11-9-2006.html> (visited Feb. 5, 2007); U.S. Digital Television, Inc., at <http://www.usdtv.com/GET-USDTV.html> (visited February 5, 2007). See also Linda Moss, *USDTV Emerges for Another Try*, MULTICHANNEL NEWS, Nov. 20, 2006.

⁴⁰¹ U.S. Digital Television, Inc., *USDTV Discontinues Low-Cost Family Friendly Digital TV Service* (press release), Mar. 5, 2007.

⁴⁰² APTS Comments at 18.

⁴⁰³ *Id.*

⁴⁰⁴ *Id.*

⁴⁰⁵ *Id.* at 18-19.

⁴⁰⁶ *Id.* at 19.

⁴⁰⁷ *Id.* at 19-21. The Commission examined issues pertaining to EAS and digital services in the *Review of the Emergency Alert System*, 20 FCC Rcd 18625 (2005).

⁴⁰⁸ *Id.* at 20-21.

safety datacasting systems provide many advantages, including nearly instantaneous transmission of data and the ability of agencies to pinpoint the households to which the data is sent.⁴⁰⁹ APTS states that because public television stations reach nearly every American household, their digital infrastructure could eventually supplement the digital broadcast Emergency Alert System as a national alert system to reach all homes, schools, businesses, and hospitals via computers.⁴¹⁰

118. In addition, digital spectrum can be used to provide service on electronic devices. As reported last year, iBlast and dotcast use the digital broadcast spectrum of local TV stations to distribute digital media content directly to home computers, set-top boxes, DVRs, vehicle entertainment systems, game consoles, personal digital assistants ("PDAs"), and MP3 players.⁴¹¹

c. DTV Equipment

119. The sale of DTV consumer electronics continues to accelerate; CEA estimated that in 2006, DTVs outsold analog televisions by 66 percent.⁴¹² Kagan Media Research estimated that between 1998, when digital television sets were first offered for retail sale, and year-end 2006, approximately 51.8 million HD-ready and enhanced-definition ("ED")-ready sets had been shipped to retailers, with 46.4 million of those being HD-ready.⁴¹³ Of those shipped, Kagan estimates that a total of 49.6 million have been purchased by consumers, of which 42.9 million were HD-ready.⁴¹⁴ In 2006 alone, Kagan estimates that 22.4 million HD-ready and ED-ready sets were shipped to retailers, with 20.8 million of those HD-ready. Of those shipped, Kagan estimates that more than 21.5 million sets were purchased by consumers, with 19.8 million of those HD-ready.⁴¹⁵ We note that HD-ready sets do not necessarily have DTV tuners. Households with HD-ready sets that do not have DTV tuners must purchase a DTV tuner to receive digital television over the air, or must subscribe to an MVPD that retransmits digital signals.

120. CEA estimates that between 1998 and mid-2006, more than 35 million DTV sets have been sold to American consumers, and Americans have spent over \$50 billion to purchase DTV products.⁴¹⁶ CEA states that HDTV displays and receivers account for 80 percent of the DTV products sold to date.⁴¹⁷ CEA reports that, during the first quarter of 2006, DTV set sales grew by more than 100 percent, and estimates that in 2006, Americans will have purchased more than 19.7 million DTV sets and displays, a 73 percent increase from 2005.⁴¹⁸ CEA forecasts that by 2010, Americans will have invested

⁴⁰⁹ *Id.* at 19.

⁴¹⁰ *Id.*

⁴¹¹ See iBlast Inc., *What is iBlast?*, at <http://www.iblast.com> (visited Feb. 4, 2007); see also Dotcast, Inc., at <http://www.dotcast.com/> (visited Feb. 4, 2007). See also 2005 Report, 22 FCC Rcd at 2557 ¶ 108.

⁴¹² CEA Comments at 4.

⁴¹³ Kagan Research, LLC, *Digital TV Set Projection Model*, Media Trends 2006, at 118.

⁴¹⁴ *Id.*

⁴¹⁵ *Id.*

⁴¹⁶ CEA Comments at 4-5.

⁴¹⁷ *Id.* at 4.

⁴¹⁸ *Id.* at 5.

more than \$145 billion in DTV products.⁴¹⁹ It estimates that in 2006, approximately 30 million American households will have tuned into digital broadcasts, a 16 percent increase from 2005.⁴²⁰ CEA also forecasts that in 2007, 58.5 percent of American households will tune into digital programming, increasing to 95.6 percent by 2010.⁴²¹ It is reported that the current average household income of HDTV owners is \$89,500, or 42 percent above the national average.⁴²²

121. CEA estimates that in 2006 the average retail price of a DTV set declined nearly 25 percent, to \$1,043 from \$1,369 in 2005.⁴²³ By comparison, the average retail price of a DTV set in 1998 was \$3,147, approximately three times the estimated average of \$1,043 for 2006.⁴²⁴ CEA also estimates that, the average DTV price will drop to \$819 in 2007.⁴²⁵

122. In 2005, NAB and the Association for Maximum Service Television, Inc. ("MSTV") announced plans to develop a high-quality, low-cost digital-to-analog converter box for terrestrial DTV reception.⁴²⁶ In 2006, the performance of the resulting boxes was reported in a joint filing by NAB, MSTV, and CEA in the U.S. Commerce Department's National Telecommunications and Information Administration ("NTIA") proceeding on implementing a converter box coupon program.⁴²⁷ The joint filing recommended minimum performance requirements for digital boxes, and endorsed an industry-wide education campaign.⁴²⁸ In addition, in September 2006, NAB, MSTV, CEA, and more than a dozen public interest groups, trade associations, and companies submitted a letter to NTIA endorsing a set of principles to support a successful DTV transition.⁴²⁹ In March 2007, NTIA announced the final rule for the digital-to-analog converter box coupon program.⁴³⁰ Manufacturers of converter boxes that can be

⁴¹⁹ *Id.*

⁴²⁰ *Id.* at 2.

⁴²¹ *Id.*

⁴²² See Leichtman Research Group, *HDTV 2006: Consumer Awareness, Interest and Ownership*, at <http://www.leichtmanresearch.com/research.html> (visited Feb. 7, 2007).

⁴²³ CEA Comments at 5.

⁴²⁴ *Id.*

⁴²⁵ *Id.*

⁴²⁶ NAB Comments at 5.

⁴²⁷ *Id.* See also CEA Comments at 1-2. Congress set a deadline of February 17, 2009, for the end of the DTV transition and the termination of analog television broadcasting. Congress charged NTIA with developing a program to provide consumers with low-cost, digital-to-analog converter boxes that will enable analog television receivers to function after the transition.

⁴²⁸ *Id.*

⁴²⁹ NAB Comments at 5.

⁴³⁰ NTIA, *Commerce Department Issues Final Rule To Launch Digital-to-Analog Converter Box Coupon Program* (press release), Mar. 12, 2007.

purchased with coupons must build devices that include specific features and meet certain performance specifications identified in the final rule.⁴³¹

d. DTV Transition

123. In the *2005 Report*, the Commission described several rulemaking decisions adopted during 2005 intended to accelerate or promote the transition to DTV.⁴³² This year, we report on the Commission's continuing efforts to foster the DTV transition.⁴³³

124. ***DTV Signal Carriage Proceeding.*** In February 2005, the Commission issued the *Digital Must Carry Second Report and Order* and *Digital Must Carry First Reconsideration*.⁴³⁴ The Commission continues to consider petitions requesting reconsideration or clarification with respect to the Commission's decisions on Program System and Information Protocol ("PSIP") carriage and channel numbering, carriage of program-related material, material degradation, and down-conversion of digital-only stations.⁴³⁵

125. ***Channel Election and Designation.*** In the *Second Periodic Review*, the Commission adopted a multi-step channel election process through which commercial and noncommercial broadcast licensees and permittees (licensees) select their ultimate "in-core" DTV channel (*i.e.*, channels 2-51).⁴³⁶ Under this process, licensees elected their preferred post-transition channel over the course of three

⁴³¹ *Id.*

⁴³² *2005 Report*, 21 FCC Rcd at 2559-60 ¶¶ 113-117.

⁴³³ See Deficit Reduction Act of 2005, PL 109-171 (2006). Among other things, Title III, entitled the Digital Television Transition and Public Safety Act of 2005, establishes a hard deadline of February 17, 2009 for the end of analog transmissions and the transition to digital television. It allocates approximately \$990 million of the estimated \$10 billion in proceeds from the auction of the analog broadcast spectrum for a digital-to-analog converter box program.

⁴³⁴ See *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules, Second Report and Order and First Order on Reconsideration*, 20 FCC Rcd 4516 (2005) ("*Digital Must Carry Second Report and Order and Digital Must Carry First Reconsideration*") (released in a single proceeding) (affirming the tentative conclusion not to require carriage of both a broadcaster's analog and digital signals during the transition). See also 47 C.F.R. § 1.429 (setting forth basis for granting petitions for reconsideration).

⁴³⁵ *Id.* PSIP is data that is transmitted along with a station's DTV signal that tells DTV receivers information about the station and what is being broadcast. PSIP provides a method for DTV receivers to identify a DTV station and to determine how a receiver can tune to it. See ATSC's PSIP website at <http://www.psip.org/>. PSIP identifies both the DTV channel and the associated NTSC channel and enables DTV receivers to associate the two channels, thereby making it easy for viewers to tune to the DTV station even if they do not know the channel number. In addition to identifying the channel number, PSIP tells the receiver whether multiple program channels are being broadcast and, if so, how to find them. It also identifies whether the programs are closed captioned, and conveys available v-chip information, among other things. See *Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, 19 FCC Rcd 18279, 18343-5 (2004) ("*Second DTV Periodic Review*").

⁴³⁶ See *Second DTV Periodic Review*. Because digital technology allows DTV channels to be spaced more closely together, the spectrum allocated to broadcast television will shrink. At the end of the DTV transition, 108 MHz of spectrum in the 700 MHz band currently used by broadcast channels 52-69 will be made available for wireless services – 24 MHz for urgent public safety needs and the remainder for advanced commercial wireless services.

rounds.⁴³⁷ In 2005, the Media Bureau announced tentative DTV channel designations and interference conflicts for licensees participating in the first round,⁴³⁸ and in 2006 for licensees participating in the second and third rounds.⁴³⁹ In October 2006, the Commission undertook the final step in the channel selection process by proposing a new DTV table of allotments that will provide all eligible stations with channels for DTV operations after the DTV transition.⁴⁴⁰

126. **Third DTV Periodic Review.** The Commission recently adopted its *Third DTV Periodic Review*, proposing procedures and rule changes necessary to complete the transition. In view of the statutory change from a market-by-market transition to a hard deadline (*i.e.*, February 17, 2009), the Commission's focus has moved from simply ensuring that stations are operating in digital to providing regulatory flexibility to facilitate broadcasters' construction of their final, post-transition channel with facilities that will reach viewers in their authorized service areas by the time they must cease broadcasting in analog.⁴⁴¹

e. Educational Efforts

127. In the *2005 Report*, we provided information on consumer education efforts by CEA, the Consumer Electronics Retail Coalition ("CERC"), and NAB.⁴⁴² These educational efforts continue. For example, these organizations continue to operate web sites, host conventions, and produce videos and publications designed to provide consumers with information about the transition. A consumer and retailer web site, <http://www.checkhd.com>, operated by Decisionmark, continues to provide information about the availability of local digital and HD channels, information on how to purchase a digital set, and answers to basic DTV questions.⁴⁴³ CEA operates several web sites designed for both retail sales associates and consumers,⁴⁴⁴ and continues to host media tours aimed at providing HDTV information

⁴³⁷ *Id.*

⁴³⁸ See *DTV Tentative Channel Designations for 1,554 Stations Participating in the First Round of DTV Channel Elections*, 20 FCC Rcd 10983 (MB 2005).

⁴³⁹ See *Tentative Digital Channel Designations for Stations Participating in the Second Round of DTV Channel Elections and Third Round Election Filing Deadline*, 21 FCC Rcd 5080 (MB 2006); *Tentative Digital Channel Designations for Stations Participating in the First and Second Rounds of the DTV Channel Election Process*, 21 FCC Rcd 5862 (MB 2006) (one additional first round TCD was announced in addition to the 75 second round TCDs); *Third Round of the DTV Channel Election Process: Tentative Channel Designations*, 21 FCC Rcd 9572 (MB 2006).

⁴⁴⁰ *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, 21 FCC Rcd 12100 (2006).

⁴⁴¹ *Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion To Digital Television*, 22 FCC Rcd 9478, 9492 (2007) ¶ 34.

⁴⁴² *2005 Report*, 21 FCC Rcd at 2560-61 ¶¶ 118-120.

⁴⁴³ CheckHD includes information about local channels and programming, antenna selection by zip code, and DTV equipment.

⁴⁴⁴ Antennaweb.com determines the free over-the-air DTV signals that can be received in a given geographic area or television market and what type of antenna is needed to receive those signals over the air. CEknowhow.com provides training products for retail sales associates. *The Connections Guide*, www.ce.org/connectionsguide/, is (continued....)

updates to local retailers, broadcasters, manufacturer representatives, and cable and satellite providers.⁴⁴⁵

128. CERC has issued a retail consumer guide that focuses on the choices that consumers will have when analog broadcasting ends.⁴⁴⁶ CEA continues to distribute a consumer and retailer tip sheet, *Buying a Digital Television* that it produced in partnership with the Commission and CERC. This “tip sheet” explains the DTV transition, as well as defining basic DTV terms and technology.⁴⁴⁷

129. In addition, several organizations in February 2007 announced the establishment of a coalition including representatives from private industry, trade associations, civil rights organizations, and community groups, plus the National Telecommunications and Information Administration (“NTIA”), to work together on a comprehensive consumer education campaign to increase awareness of the DTV transition.⁴⁴⁸ Also, the Digital Television Transition and Public Safety Act of 2005 authorizes \$5 million for NTIA to conduct a consumer education campaign regarding the DTV transition and the availability of converter equipment.

E. Other Wireline Video Services

1. Local Exchange Carriers

130. The 1996 Act amended Section 651 of the Act to permit common carriers to provide video services in their telephone service areas. The statute permitted common carriers to: (1) provide video programming to subscribers through radio communications under Title III of the Act;⁴⁴⁹ (2) provide transmission of video programming on a common carrier basis under Title II of the Act;⁴⁵⁰ (3) provide video programming as a cable system under Title VI of the Act;⁴⁵¹ or (4) provide video programming by means of an open video system (“OVS”).⁴⁵²

131. In recent *Reports*, we observed that LECs were increasingly interested in providing video services.⁴⁵³ In the last year, LECs, most notably Verizon and AT&T, have expanded the areas where they provide facilities-based video services. LECs continue to focus on offering bundles of services, including

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designed to help consumers better understand how to connect their DTV products. CEA Comments at 14-15. See also CEA, at <http://www.ce.org/hdtv>.

⁴⁴⁵ CEA has hosted a “Satellite Media Tour” that featured information regarding the transition from analog to digital. CEA Comments at 15.

⁴⁴⁶ *Id.* at 16. CEA notes that in March 2006, it announced a voluntary labeling program for televisions that contain only analog tuners. CEA Comments at 4.

⁴⁴⁷ *Id.*

⁴⁴⁸ NCTA, *Countdown to February 2009: Digital Television Transition (DTV) Coalition Pledges to Alert Consumers about Transition from Analog to Digital TV* (press release), Feb. 28, 2007.

⁴⁴⁹ 47 U.S.C. § 571(a)(1).

⁴⁵⁰ 47 U.S.C. § 571(a)(2).

⁴⁵¹ 47 U.S.C. § 571(a)(3).

⁴⁵² 47 U.S.C. § 571(a)(3)-(4).

⁴⁵³ For example, Verizon state that it intends to invest \$18 billion in net capital from 2004 through 2010 in deploying its fiber network. See Verizon Communications Inc., *Verizon Provides New Financial and Operational Details on its Fiber Network as Deployment Gains Momentum* (press release), Sept. 27, 2006 (“Verizon Details on Fiber Network”).

local and long distance telephone, high-speed Internet service, and video programming service.⁴⁵⁴ In order to offer these services, LECs are entering into joint ventures with MVPD service providers, such as DBS operators, or are providing MVPD service over their own recently upgraded facilities. Some LECs are deploying fiber-to-the-home ("FTTH," also known as fiber-to-the-premises, or "FTTP") infrastructure. In addition, LECs are increasingly utilizing Internet Protocol Television ("IPTV") technologies.

132. Verizon continues to pursue deployment of facilities-based commercial video service in several communities around the country. Verizon's FiOS FTTH network allows delivery of multichannel video services in addition to telephony and high-speed Internet access service.⁴⁵⁵ Verizon first deployed its FiOS service in Keller, Texas, in September 2005, and continues to obtain franchises and launch the service in other communities.⁴⁵⁶ At the end of 2006, Verizon reported that it offered video programming via FiOS TV to more than 2.4 million households in 200 cities in 10 states and served 207,000 subscribers.⁴⁵⁷

133. Since last year's *Report*, AT&T has increased its video service deployment through its "U-verse" FTTH product. According to AT&T, as part of its "Project Lightspeed," program, it intends to offer U-verse services in 41 markets over the next three years.⁴⁵⁸ At the end of 2006, AT&T served approximately 11 cities in Texas, California, Indiana, and Connecticut.⁴⁵⁹ AT&T further notes that this deployment will provide the full suite of U-verse services, including voice, high-speed Internet access, and video services, and that, within three years, it expects to serve 5.5 million low income households.⁴⁶⁰ In addition, AT&T continues to partner with EchoStar Communications to resell Dish Network DBS

⁴⁵⁴ Fiber-To-The Home Council Comments at 2. According to the Fiber-To-The Home Council, offering the so called "triple-play" increasingly is becoming a competitive necessity. *Id.* In addition, AT&T and Verizon seek to include wireless services as part of this bundle. AT&T plans to offer integrated wireline and wireless designed to blur the distinctions between local telephone, MVPD, and high speed Internet services. Leslie Cauley, *ATT Cable Plan Includes Wireless*, USA TODAY, Oct. 31, 2006, B-3. Similarly, in addition to offering video programming and IPTV via FiOS, Verizon is continuing to market video services over its wireless system. See Section II.F.3 *infra*.

⁴⁵⁵ Verizon Comments at 4.

⁴⁵⁶ 2005 *Report*, 21 FCC Rcd at 2562 ¶ 124.

⁴⁵⁷ See also *Verizon 4Q 2006 Results Cap Strong Organic Growth in Wireless, Broadband and Business Markets* (press release), Jan. 29, 2007.

⁴⁵⁸ *AT&T Initiatives Expand Availability of Advanced Communications Technologies Company Enhances Broadband Reach Through Innovative Technologies: Satellite, Fixed Wireless and Wimax Details the Availability of Project Lightspeed to Low-Income Households* (press release), May 8, 2006 ("AT&T May 8, 2006 Press Release").

⁴⁵⁹ *Internet Technology Tests AT&T's Bid For TV Subscribers*, WALL STREET JOURNAL, Feb. 7, 2006. In addition, in October 2006, AT&T stated that it had 3,000 U-verse subscribers. See also *AT&T Posts Strong Fourth-Quarter Earnings Growth, Reaffirms Outlook for Double-Digit Growth Adjusted Earnings Per Share* (press release), Jan. 25, 2007. AT&T reports that it had 635,000 subscribers for all video services including AT&T/Dish Network satellite television and AT&T U-verse service at the end of 2006.

⁴⁶⁰ AT&T May 8, 2006 Press Release.

service and currently has 583,000 co-marketed (or resale) subscribers.⁴⁶¹ Prior to its merger with AT&T, BellSouth noted that it held 20 franchises to provide cable overbuild service in its local telephone service area.⁴⁶² According to BellSouth, its facilities-based video service was available to 200,000 households and had approximately 35,000 subscribers in 14 markets.⁴⁶³ In addition, BellSouth noted that it entered into a strategic marketing alliance with DIRECTV to offer digital satellite service to BellSouth residential customers. As of the third quarter of 2006, approximately 756,000 BellSouth customers had added DIRECTV service to the bundles of services to which they subscribe.⁴⁶⁴ BellSouth also reported that it is studying the use of IPTV for further distribution of multichannel video services.⁴⁶⁵

134. Qwest also is pursuing opportunities to provide bundles of services, including various technological configurations of video services such as satellite, IPTV, and video delivered via wireless telephones.⁴⁶⁶ Qwest currently resells DIRECTV service throughout its 14-state service region.⁴⁶⁷ Qwest also is beginning to take steps to provide IPTV service in its service area.⁴⁶⁸ In addition, Qwest continues to seek video franchise agreements and already has agreements in select neighborhoods in Colorado, Arizona, Nebraska, and Utah.⁴⁶⁹

2. Open Video Systems

135. In 1996, Congress established the open video system ("OVS") framework, one of four statutorily recognized options for the provision of video programming services by LECs.⁴⁷⁰ BSPs,

⁴⁶¹ *AT&T's U-verse Planned for 15 Cities*, MULTICHANNEL NEWS, OCT. 30, 2006, at 13 ("Multichannel News October 30, 2006 Article").

⁴⁶² BellSouth Comments at 1-2.

⁴⁶³ BellSouth Comments at 1-2.

⁴⁶⁴ BellSouth Comments 2.

⁴⁶⁵ BellSouth Comments at 2-3. BellSouth also notes that upon approval of its merger with AT&T, it expects the combined company to be in a better position to further deploy IPTV in BellSouth's service area. *Id.*

⁴⁶⁶ Beth Potter, *Qwest To Expand TV Service*, DENVER POST, Jul. 5, 2006, at http://www.denverpost.com/business/ci_4011840 (stating that Qwest has 1 million subscribers taking bundles of services) ("Denver Post July 5, 2006 Article").

⁴⁶⁷ Andy Vuong, *Qwest: DirecTV Deal Not Window Dressing*, DENVER POST, Dec. 19, 2006, at http://www.denverpost.com/headlines/ci_4863836 ("Denver Post December 19, 2006 Article").

⁴⁶⁸ *Denver Post July 5, 2006 Article*. According to this story, Qwest provides its video offerings using high-speed fiber-optic lines or over copper video digital subscriber lines.

⁴⁶⁹ *Denver Post December 19, 2006 Article*.

⁴⁷⁰ We treat OVS providers in a separate section to highlight the separate regulatory classification that Congress created. 47 U.S.C. §571(a)(3)-(4); 1996 Report, 12 FCC Rcd at 4395-98 ¶¶ 68-71. The OVS framework was designed to streamline the process of entering local MVPD markets by relieving OVS operators of certain regulatory requirements. Title VI regulations apply somewhat differently to OVS certified providers than they apply to cable operators. Among other things, an open video system's carriage rates are entitled to a presumption that they are just and reasonable where one or more unaffiliated video programming providers occupy channel capacity on the system at least equal to that of the open video system operator and its affiliates. We are not aware of any OVS operator carrying programming offered by an unaffiliated program packager. Among the rules that apply to open video (continued....)

however, are the only significant holders of OVS certifications or local OVS franchises.⁴⁷¹ Most, if not all, OVS providers are also overbuilders.⁴⁷² BSPA reports that new OVS activity has been limited, but that some of its members have converted cable franchises into OVS franchises, which has enabled some BSPs to eliminate build-out requirements.⁴⁷³ BSPA maintains that build-out requirements limit wireline video competition by increasing the costs of entry.⁴⁷⁴ BSPA argues that most incumbent cable operators have had decades to build, upgrade, expand, and market their networks and services to current service boundaries with limited or no competition. Significant portions of the funding for this historical expansion came from ongoing operations rather than the capital markets. Today's new entrants, however, do not have the advantage of significant ongoing operations, and have to rely more heavily on the capital markets to finance their expansion. Thus buildout requirements, according to BSPA, are anticompetitive and a barrier to entry into the video marketplace.⁴⁷⁵

3. Electric and Gas Utilities

136. Last year, we observed that municipal electric and gas utilities continue to move forward with multichannel video program distribution that provides video services through traditional fiber-optic networks.⁴⁷⁶ In the *Notice*, we sought information regarding utility companies that provide video services, including broadband over power lines ("BPL").⁴⁷⁷

137. APPA, which represents more than 2,000 not-for-profit community and state-owned electric utilities, reports that a recent APPA survey of municipal broadband service providers found that 100 association members provide video services, many in combination with high-speed Internet service and telephony, at a discounted price for bundled services.⁴⁷⁸ The APPA survey indicates that the average subscriber penetration rate was 50 percent of homes passed by utility video services, and that 40 percent

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systems are the Commission's rules governing must carry, retransmission consent, program access, sports exclusivity, network nonduplication, syndicated exclusivity, and public, educational and governmental ("PEG") access channels. *Id.* When it authorized the OVS framework, Congress abolished the Commission's video dialtone ("VDT") framework under which LECs previously had offered video services.

⁴⁷¹ For a complete list of OVS certifications, see Current Filings For Certification of Open Video Systems, at <http://www.fcc.gov/mb/ovs/csovsccr.html> (visited Feb. 5, 2007).

⁴⁷² 2004 Report, 20 FCC Rcd at 2801 ¶ 70.

⁴⁷³ BSPA Comments at 6-7. OPASTCO reports that fewer than 3 percent of its members provide service under OVS certification, a decline from the roughly 8 percent OPASTCO reported last year. Compare OPASTCO Reply Comments at 3, with 2005 Report, 21 FCC Rcd at 2549 ¶ 88 n.336.

⁴⁷⁴ BSPA Comments at 15.

⁴⁷⁵ *Id.*

⁴⁷⁶ 2005 Report, 21 FCC Rcd at 2563-7 ¶¶ 126-8. See also CEA Comments at 8, Comcast Comments at 55.

⁴⁷⁷ Notice, 21 FCC Rcd at 12248 ¶ 54. BPL is a new type of technology that provides access to high-speed Internet service using electric utility companies' power lines. It has the potential to extend high-speed Internet service to unserved and underserved areas because power lines reach virtually every U.S. residence and business. It also could introduce additional competition to existing cable, DSL, and other high-speed Internet services. See Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems, Carrier Current Systems, Including Broadband Over Power Line Systems, 19 FCC Rcd 21265, 21266 (2004) ¶ 2 ("2004 BPL Order").

⁴⁷⁸ APPA Reply at 1-3. APPA notes that 70 percent of its member utility providers serve communities with less than 10,000 residents.

of these subscribers purchase a combination of video and high-speed Internet access service.⁴⁷⁹ APPA indicates that incumbent cable operators lower prices or offer additional services in response to utility competition, and that cable operators have used predatory pricing by lowering subscription rates by 50 percent in some instances where utility competition exists.⁴⁸⁰ Similarly, the FTTH Council cites the example of Bristol Virginia Utilities ("BVU"), a municipal MVPD with a 50 percent market share for video services.⁴⁸¹ FTTH Council asserts that BVU offers lower prices than incumbent cable operators for nearly all services provided, 20 percent lower in some cases.⁴⁸²

138. In August 2006, the Commission responded to petitions for reconsideration by generally affirming its technical standards, operating restrictions, and measurement procedures for BPL systems to minimize interference.⁴⁸³ In November 2006, the Commission classified BPL Internet access service as an information service under the Act.⁴⁸⁴ CEA and others assert that these recent Commission actions remove uncertainty regarding the classification of BPL service and will facilitate the development of this technology.⁴⁸⁵ A number of utilities are offering, or plan to offer, video services using BPL technology, including Current Communications, offering video to 60,000 Cincinnati residents; ANEW Broadband services, providing on-demand video in hotels and niche markets in Florida; and KlikVU, Inc., which has announced plans to stream VOD programming, including movies, television, sports, and foreign language films in Texas.⁴⁸⁶ In addition, Sharp is introducing flat-screen TVs that will be able to receive video via BPL.⁴⁸⁷ Further, Comcast states that 20 percent of national utility services are considering investments in BPL, but may be awaiting the launch of TXU's BPL network to gain confidence in supporting the new

⁴⁷⁹ APPA Reply at 4.

⁴⁸⁰ APPA Reply at 4. *See also* Vicky Aldous, *Cable Wars*, ASHLAND DAILY TIDINGS, Mar. 3, 2005, at <http://www.dailytidings.com/2005/0303/030305n1.shtml> (visited Jan. 30, 2007).

⁴⁸¹ FTTH Comments at 8-9.

⁴⁸² *Id.*

⁴⁸³ *See Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems, Carrier Current Systems, Including Broadband Over Power Line Systems*, 21 FCC Rcd 9308 (2006). *See also* 2004 BPL Order.

⁴⁸⁴ *United Power Line Council's Petition For Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, 21 FCC Rcd 13281 (2006).

⁴⁸⁵ *See* CEA Comments at 8. *See also* NCTA Comments at 41; Comcast Comments at 55-57.

⁴⁸⁶ Comcast Comments at 56-57. BPL operators are expected to include mainstream networks, such as QVC, Encore, STARZ!, Discovery, A&E, and Lifetime. BPL is attracting significant investment capital. For example, Current Communications has secured \$130 million in funding from TXU Corp, Earthlink, General Electric, Google Inc., Goldman Sachs & Co., and The Hearst Corp. *Id.* at 57.

⁴⁸⁷ Sharp Electronics Corp., *Sharp Extends LCD Leadership with One-of-a-Kind Technology Demonstrations* (press release), Jan. 8, 2007.

infrastructure.⁴⁸⁸ However, forecasters indicate that BPL technology may face low penetration rates as the market for bundled services is saturated.⁴⁸⁹

F. Other Wireless Video Services

1. Private Cable Systems

139. Private cable operator ("PCO") systems, also known as satellite master antenna ("SMATV") systems, are video distribution facilities that do not use any public rights-of-way.⁴⁹⁰ PCOs acquire video programming and distribute it via wiring in urban and suburban multiple dwelling units ("MDUs"), such as apartments and condominiums, as well as commercial multiple tenant units ("MTUs"), including hotels and office buildings. Traditionally, PCOs receive nonbroadcast programming from resellers called aggregators, using satellite master antenna systems atop the buildings they serve. PCOs usually combine this nonbroadcast video programming with local broadcast television signals that they receive using master antennas. In the last 10 years, PCOs have increasingly used wired, wireless, and DBS technologies to provide voice and data communications services as well.⁴⁹¹ Thus, the packages PCOs provide their subscribers are comparable to those of cable systems, and they directly compete with franchised cable operators.

140. PCOs continue to serve a small number of MVPD subscribers, either through their own facilities or through partnership arrangements with DBS operators DIRECTV and EchoStar.⁴⁹² PCO subscribership has declined to 900,000 subscribers this year, a decrease of 10 percent from last year's 1 million subscribers.⁴⁹³ The Independent Multi-Family Communications Council ("IMCC"), the trade association that represents PCOs and the MDUs they serve, indicates that PCOs serve about 1 to 2 percent of the MVPD marketplace, although they comprise 6 to 8 percent of the market with respect to MDUs of 100 units or more.⁴⁹⁴ It also states that most PCOs serve between 3,000 and 4,000 customers.⁴⁹⁵

2. Wireless Cable Systems

141. Wireless cable systems use Broadband Radio Service ("BRS") and Educational Broadband Service ("EBS") spectrum in the 2 GHz band to transmit video programming and provide

⁴⁸⁸ Comcast Comments at 57.

⁴⁸⁹ Dinesh Kumar, *Analysts Tie BPL Growth in 2007 to Tex. Project's Fate*, COMM. DAILY, Jan. 22, 2007, at 5.

⁴⁹⁰ 1996 Act, sec. 301(a)(2), 47 U.S.C. § 522(7). In addition, private cable and SMATV operators: (a) do not pay franchise and Federal Communications Commission subscriber fees; (b) are not obligated to pass every resident in a given area; (c) are not subject to rate regulation; and (d) are not subject to must carry and local government access obligations. 1997 Report, 13 FCC Rcd at 1085 n.296.

⁴⁹¹ IMCC Reply Comments at 2-3.

⁴⁹² See 2005 Report, 21 FCC Rcd at 2564 ¶ 130.

⁴⁹³ Kagan Research, LLC, *Basic Cable Network Economics, 2005-2015*, Media Trends 2006, at 64.

⁴⁹⁴ IMCC Reply Comments at 2. In 2005, we reported that IMCC had more than 150 members operating throughout the United States. 2005 Report, 21 FCC Rcd at 2563 ¶ 130. For a list of members, see Independent Multi-Family Communications Council, at <http://www.imcc-online.org/membership> (visited Feb. 1, 2007).

⁴⁹⁵ IMCC Reply Comments at 2.

broadband services to residential subscribers.⁴⁹⁶ These services were originally designed for the delivery of multichannel video programming, similar to that of traditional cable systems, but, over the past several years, licensees have focused their operations instead on providing two-way high-speed Internet access services.⁴⁹⁷ The number of wireless cable subscribers has declined steadily from a peak of 1.2 million in 1996 to approximately 100,000 in 2006, unchanged from 2005.⁴⁹⁸ Wireless cable systems provide video competition to incumbent cable operators on only a limited basis.

3. Commercial Mobile Radio Service and Other Wireless Providers

142. In recent years, major commercial mobile radio service ("CMRS") and other wireless providers have begun offering services that allow subscribers to access video programming over the air on cellular phones and other mobile devices. Video content available on mobile phones includes: (1) linear television programming, which matches the programming being aired at the same time on a television broadcast or nonbroadcast network; (2) mobile-only video channels; (3) on-demand video clips, available for download, of content aired on television networks or content available exclusively to mobile phones; (4) full-length, pay-per-view movies; and (5) user-generated videos uploaded to Internet sites, such as YouTube.com.⁴⁹⁹ Estimates of the number of users of mobile video services in the United States range from 2 to 8 million.⁵⁰⁰

143. As mentioned in the 2005 Report, Verizon Wireless launched its mobile video and multimedia service, V CAST, in February 2005.⁵⁰¹ The V CAST service allows customers to download games, music, and video clips on demand, including clips of television programming aired on networks such as ESPN, CNN, The Weather Channel, Nickelodeon, MTV, and Comedy Central, as well as clips of videos uploaded on YouTube.com.⁵⁰² The service is available to Verizon Wireless subscribers whose mobile devices run on the carrier's CDMA EV-DO mobile broadband network, which allows download speeds of 400-800 kilobits per second ("kbps").⁵⁰³ In March 2007, Verizon Wireless launched an expanded mobile television service for V CAST using Qualcomm's MediaFLO technology. As of April

⁴⁹⁶ This spectrum was previously known as multipoint distribution service ("MDS") and instructional television fixed service ("ITFS") until the Commission renamed them in *Amendment of Parts 1, 21, 73, and 74 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, 19 FCC Rcd 14165 (2004).

⁴⁹⁷ 2004 Report, 20 FCC Rcd at 2814 ¶¶ 104-106.

⁴⁹⁸ NCTA Comments at 9.

⁴⁹⁹ Comcast Comments at 50-51; CEA Comments at 5-6.

⁵⁰⁰ Telephia, *U.S. Mobile TV Users Hit 2 Million Mark* (press release), May 24, 2006 (2 million subscribers as of First Quarter, 2006); Comcast Comments at 50.

⁵⁰¹ See 2006 Report, 21 FCC Rcd at 2566 ¶ 134.

⁵⁰² Verizon Wireless - Get It Now, V CAST - Browse Clips, at http://getitnow.vzwshop.com/index.aspx?id=vcast_video_browse (visited Jan. 19, 2007); NCTA Comments at 25-26.

⁵⁰³ *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 21 FCC Rcd 10947 (2006).

2007, the service was available in 27 markets and on two handset models.⁵⁰⁴ The new service will rely on Qualcomm's MediaFLO video multicasting technology and will enable subscribers to view linear video programming from networks such as Fox, CBS, MTV, Comedy Central, and Nickelodeon on compatible mobile devices.⁵⁰⁵

144. Sprint Nextel also offers a mobile video service, Sprint TV, to customers whose handsets are compatible with Sprint Nextel's EV-DO network. Subscribers to this service can view linear television programming from 20 nonbroadcast networks, including the Discovery Channel, the Weather Channel, C-SPAN, and Fox News, as well as video content from several mobile-only channels.⁵⁰⁶ In addition, in September 2006, Sprint Nextel launched a pay-per-view movie download service that allows customers to download and view full-length movies on their cell phones.⁵⁰⁷

145. MobiTV, launched in November 2003, is a mobile television service available to subscribers of Sprint Nextel, Cingular, Alltel, U.S. Cellular, and other mobile telephone carriers with a MobiTV-compatible phone. Customers can watch linear networks, such as MSNBC, CNBC, Fox News, and TLC, as well as several mobile-only video channels, for an additional \$9.99 per month. In January 2007, MobiTV announced that it was testing technology that will allow mobile WiMAX network operators to offer interactive mobile television services.⁵⁰⁸

146. MobiTV also announced in January 2007 that Sprint Nextel planned to use MobiTV's mobile television technology and service as a means to extend the video services offered through Sprint Nextel's joint venture with major cable companies, including Comcast, to mobile handsets.⁵⁰⁹ In 2006, Sprint Nextel partnered with Comcast and other major cable companies in a joint venture called SpectrumCo to participate in the Commission's Advanced Wireless Services auction.⁵¹⁰ In that auction,

⁵⁰⁴ Brad Smith, *Mobile TV's High Wire Act*, Wireless Week, Apr. 15, 2007; Verizon Wireless, V CAST Mobile TV, www.verizonwireless.com/mobiletv (visited Apr. 18, 2007).

⁵⁰⁵ Verizon Wireless, *Verizon Wireless Lifts Curtain on V CAST Mobile TV; True Broadcast Quality, the Best of TV* (press release), Jan. 7, 2007. MediaFLO is a one-way, multicast video service that uses Qualcomm's spectrum licenses in the 700 MHz band. The service relies on Verizon Wireless's two-way CDMA network for any uplink communications.

⁵⁰⁶ Sprint Nextel, *Sprint TV Live Launches on Sprint Multimedia Handsets* (press release), Sept. 26, 2005.

⁵⁰⁷ Sprint Nextel, *Sprint Is First to Offer Full-Length "Pay-Per-View" Movies on Mobile Phones in U.S.* (press release), Sept. 5, 2006; NCTA Comments at 25-26. Movies cost between \$3.99 and \$5.99 each, and, once purchased, are available to the customer for viewing for a time period ranging from 24 hours to one week depending on the title. Sprint Nextel, *Sprint Is First to Offer Full-Length "Pay-Per-View" Movies on Mobile Phones in U.S.* (press release), Sept. 5, 2006.

⁵⁰⁸ MobiTV, *MobiTV Provides Mobile Television Service for Sprint - Cable Companies Joint Venture* (press release), Jan. 8, 2007. WiMAX ("World Interoperability for Microwave Access") was formed in June 2001 to promote conformance and interoperability of the IEEE 802.16 standard and to provide wireless data over long distances, in a variety of ways, from point-to-point links to full mobile cellular type access. See also ¶ 274 *infra*.

⁵⁰⁹ MobiTV, *MobiTV Demonstrates First Ever Mobile WiMAX Broadcast TV Service* (press release), Jan. 7, 2007.

⁵¹⁰ Comcast Comments at 72-73.

SpectrumCo won 137 licenses capable of serving 267 million people; the spectrum will allow Comcast to cover 99 percent of its cable footprint with wireless capabilities.⁵¹¹

147. Tower company Crown Castle has been running trials of mobile television services through its Modeo subsidiary. After testing the service in Pittsburgh, Pennsylvania, for three years, Modeo began offering a beta trial of its mobile television service in January 2007 for several hundred users in New York City.⁵¹² Modeo's service uses the DVB-H (Digital Video Broadcast-Handset) mobile video technology standard and Crown Castle's spectrum license in the 1670-1675 MHz band.⁵¹³ The service allows subscribers to access linear television programming from several networks, including Fox News and The Discovery Channel. While Modeo is managing the trial of its service in New York, the company ultimately plans to offer its service wholesale to mobile telephone carriers, which will then sell it to end users with DVB-H-compatible handsets. Like Qualcomm's MediaFLO service, Modeo relies on mobile telephone carrier networks for any uplink communications.

148. Aloha Partners, a major holder of spectrum in the 700 MHz band, is also planning to use DVB-H technology in its mobile television venture, Hiwire.⁵¹⁴ T-Mobile is reportedly testing Hiwire's service.⁵¹⁵

149. In January 2007, Cingular Wireless and Apple Computer unveiled the iPhone device, which the companies plan to begin selling in June 2007.⁵¹⁶ The iPhone is a wireless phone and multimedia device that runs on Cingular Wireless's EDGE network.⁵¹⁷ Users can load music and video content, available through Apple's iTunes software and online store, onto the iPhone; however, the music and video content must be loaded onto the iPhone from a PC (as it must be to an iPod) and will not be accessible for over-the-air downloads.⁵¹⁸

⁵¹¹ *Auction of Advanced Wireless Services Licenses Closes*, 21 FCC Rcd 10521 (2006); Comcast Comments at 72-73.

⁵¹² *Modeo, Modeo Launches Live Mobile TV Beta Service in Nation's Largest Metro Area* (press release), Jan. 8, 2007.

⁵¹³ *See 2005 Report*, 21 FCC Rcd at 2606 ¶ 230; Letter from Ari Q. Fitzgerald, Counsel to Crown Castle International Corp., to Marlene H. Dortch, Secretary, FCC, Attachment (presentation to the FCC on the use of the 1670-1675 MHz Band) at 3 (Sept. 28, 2006).

⁵¹⁴ *Modeo Tests Live Cellular TV Service in New York City*, AP, Jan. 9, 2007.

⁵¹⁵ Joni Morse, *Modeo Flips on Live TV in NYC*, WIRELESS WEEK, Jan. 8, 2007.

⁵¹⁶ *Cingular, Apple Chooses Cingular as Exclusive U.S. Carrier for Its Revolutionary iPhone* (press release), Jan. 9, 2007.

⁵¹⁷ *Cingular, Apple Chooses Cingular as Exclusive U.S. Carrier for Its Revolutionary iPhone* (press release), Jan. 9, 2007; Li Yuan, *iPhone Fans and Foes Clash Online*, THE WALL STREET JOURNAL, Jan. 18, 2007, at B3.

⁵¹⁸ *Cingular, Apple Chooses Cingular as Exclusive U.S. Carrier for Its Revolutionary iPhone* (press release), Jan. 9, 2007; Li Yuan, *iPhone Fans and Foes Clash Online*, THE WALL STREET JOURNAL, Jan. 18, 2007, at B3.

G. Other Entrants**1. Web-Based Internet Video**

150. The amount of web-based video available over the Internet continues to increase significantly each year.⁵¹⁹ As we have reported in the past, many traditional broadcast and nonbroadcast programmers, as well as many independent content producers, currently provide streaming and downloadable video content on their Internet web pages.

151. Streaming is a technique used for transferring data on the Internet such that it can be sent and received as a steady and continuous stream.⁵²⁰ Streaming technologies are becoming increasingly important with the growth of the Internet because many users do not have fast enough access to download large multimedia files quickly, and do not want to wait for large multimedia files to download entirely before viewing them. With streaming video, the end-user can connect to the video provider's server through its web site, and then use streaming software (such as Real Player, Windows Media Player, Apple's QuickTime or another proprietary application) to view the video in "real-time." With streaming technology, the user can start displaying the video before the entire video file has been transmitted.

152. As we reported last year, a large amount of video available through the web is downloadable. Downloadable video continues to be available from the web sites of both traditional and independent programmers. We expect that a large amount of video available through the web will continue to be downloadable video. Numerous online services allow users to download content to a computer hard drive for viewing on a personal computer, television, or mobile video device. Downloadable content for viewing on a mobile video device also is becoming more widely available.⁵²¹ In addition, some companies are using a high-speed Internet connection coupled with a television set-top box that includes an on-screen guide to provide video directly to a television set.

153. Several commenters observe that established models for the distribution of video programming are being challenged by these technological advancements and consumers' ability to receive video programming via alternative means, not just from traditional linear networks.⁵²² Comcast provides examples of the new models for offering video, such as the video iPod, which, it argues, competes with cable for the time and attention of consumers.⁵²³

154. **Internet Usage.** Nearly 70 percent of all U. S. households subscribe to an Internet service, and high-speed connections now constitute 60 percent of online subscriptions.⁵²⁴ In July 2006, 107 million Americans, three out of every five Internet users, viewed video online.⁵²⁵ In July 2006, about

⁵¹⁹ See also Comcast Comments at 29; DIRECTV Comments at 12; NCTA Comments at 9-10; Comcast Reply at 6-7, 14-15; NCTA Reply at 2-4.

⁵²⁰ See Webopedia, *Streaming*, at <http://www.webopedia.com/TERM/s/streaming.html>.

⁵²¹ See Comcast Comments at 3; NCTA Comments at 22-26; Comcast Reply at 14-15, 20. See also Section II.F.3.

⁵²² See Comcast Comments at 1-7, 62; CEA Comments at ii, 5-6; Comcast Reply at 2-4, 6-7; Viendi Reply at 2.

⁵²³ See Comcast Comments at 30, 34, 57-59; Comcast Reply at 20.

⁵²⁴ Comcast Comments at 30.

⁵²⁵ *Id.*

60 percent of U.S. Internet users downloaded videos; collectively, they downloaded more than 7 billion videos.⁵²⁶ Comcast observes that video web sites now draw users in numbers comparable to the subscriber reach of cable and satellite companies.⁵²⁷

155. *Available Content on the Web.* YouTube is the country's most used online streaming video web site, with more than 34 million visitors in August 2006.⁵²⁸ The second most visited video web site in August 2006 was MySpace, which logged more than 17.9 million visitors.⁵²⁹ YouTube began as a personal video sharing service where users could post videos they created themselves or watch videos posted by others. Purchased by the Internet portal⁵³⁰ Google in 2006, it now offers mostly user-posted original content and videos or video clips that users have recorded from traditional video media, such as television.⁵³¹ In addition, some broadcast networks have entered into agreements to provide their traditional programming content through YouTube's web site.⁵³² MySpace, like YouTube, also offers original short video content posted by its web site's users.⁵³³ In addition, MySpace has entered into an agreement with Fox to provide advertiser-supported episodes of its prime time shows; both Fox and MySpace are owned by parent company News Corp.⁵³⁴

156. Major Internet portals, such as Google, Yahoo, and AOL, continue to offer user-posted content, but are increasingly entering into licensing agreements to offer pre-existing and original video

⁵²⁶ FTTH Council Comments at 6 (citing comScore).

⁵²⁷ Comcast Comments at 30.

⁵²⁸ YouTube, Inc., at <http://www.youtube.com/t/about> ("YouTube, Inc."); Comcast Comments at 30 n.119 citing Nielsen.Net Ratings). See also Comcast Reply at 6; FTTH Council Comments at 6.

⁵²⁹ MySpace.com, at <http://www.myspace.com/Modules/Common/Pages/AboutUs.aspx> ("MySpace.com"); Comcast Comments at 30 n.119 (citing Nielsen.Net Ratings). MySpace's video services provided 1.4 billion streams or 20.1 percent of all web-based streamed video in August 2006. Comcast Comments at 35; FTTH Council Comments at 6 (citing comScore).

⁵³⁰ An "Internet portal," also known as a "web portal," is a web site that acts as a starting point for browsing the web. Portals typically include search engines and large directories of websites. Some popular portals are Yahoo, Google, Excite, Lycos, Netscape, AltaVista, MSN, and AOL.com. There also are many smaller portals, known as "niche portals," for specific interests. These sites include Cnet (for computers and technology), Fool.com (for investors), and Garden.com (for gardeners). See TechTerms.org, *Portal*, at <http://www.techterms.org/definition/portal> (visited Feb. 21, 2007).

⁵³¹ See YouTube, Inc. See also Comcast Comments at 3, 34-35; CEA Comments at 6; NCTA Comments at 22; Comcast Reply at 6, 18; Viodi Reply at 2. YouTube was officially launched in December 2005, and in October 2006 was purchased by Google for \$1.65 billion. See YouTube, Inc.; CEA Comments at 6; Comcast Comments at 35 n.143; NCTA Comments at 22; Comcast Reply at 18.

⁵³² Comcast Comments at 34-35. Verizon is partnering with YouTube to bring the web site's videos to Verizon wireless phones, and possibly to television sets as well. Comcast Comments at 28. See also Section II.F.3.

⁵³³ See MySpace.com. See also Comcast Comments at 30 n.119 (citing Nielsen.Net Ratings); CEA Comments at 6.

⁵³⁴ Comcast Comments at 35. See also CEA Comments at 6.

content from traditional video providers.⁵³⁵ AOL provides both free and paid video programming, including a library of television shows and movies from several major movie studios.⁵³⁶ Some of the content offered by Google, Yahoo, and AOL is available for streaming, and some content is available for downloading onto the user's computer. In fact, most web-based video providers offer combinations of streaming and downloadable video.

⁵³⁵ Comcast Comments at 2, 33-34; Comcast Reply at 15; NCTA Comments at 23. Google Video, for example, allows viewers to search, view, and purchase video content, and allows users to share opinions about video clips. In May 2006, Google Video attracted almost 7 million viewers. Comcast Comments at 33-34. MTV is working with Google to offer its video content on the web. *Id.* at 2. Yahoo continues to be one of the most popular providers of video on the Internet, attracting 16.6 million unique visitors in June 2006. The Yahoo portal includes local news clips from CBS, ABC, and CNN. *Id.* See also FTTH Council Comments at 6.

⁵³⁶ Comcast Comments at 33-34; NCTA Comments at 25.

157. Other online video providers include Wi-FiTV,⁵³⁷ BrightCove,⁵³⁸ Virtual Digital Cable (“VDC”),⁵³⁹ and LX.TV Lifestyle Television,⁵⁴⁰ which mostly provide prepackaged programming offered as “channels” of video to monthly subscribers. As we reported last year, CinemaNow⁵⁴¹ and Movielink⁵⁴² continue to offer downloadable video through their web sites.⁵⁴³ In addition, Microsoft continues to experiment with video service offerings, including movie downloads through its Xbox360.⁵⁴⁴ Amazon offers movie downloads through its service called Unbox.⁵⁴⁵

158. Traditional broadcast and nonbroadcast networks continue to experiment with alternate programming content options on their own web sites.⁵⁴⁶ After a successful online video streaming experiment during the spring of 2006, ABC relaunched its video streaming service in September 2006,

⁵³⁷ Wi-FiTV, Inc., *Wi-Fi TV Corporate*, at <http://www.wi-fitv.com/Corporate.php> (“Wi-Fi TV Inc.”). Wi-FiTV.com offers classic movies for purchase and over 200 live TV channels from around the world. *Id.*; Comcast Comments at 35; Comcast Reply at 16.

⁵³⁸ Brightcove.com, *Corporate*, at <http://corp.brightcove.com/>. Brightcove.com distributes user-posted videos and videos from traditional cable channels, such as Bravo, Discovery, AMC, Oxygen, and TV Land. *Id.*; Comcast Comments at 36; NCTA Comments at 25.

⁵³⁹ VDC Corporation, at <http://www.vdc.com>. VDC is an Internet-TV company that offers video programming from channels, including ShopNBC, the Soundtrack Channel, the World Championship Sports Network, and some local television stations. *Id.* See Comcast Comments at 36. See also note 670 *infra* (Program Access Complaint).

⁵⁴⁰ LX.TV, at <http://code.tv> and <http://code.tv/#footdata>; NCTA Comments at 25. LX.TV is a broadband television network web site featuring original lifestyle and cultural programming free and on-demand. *Id.*

⁵⁴¹ CinemaNow, Inc., *Company Background*, at <http://www.cinemanow.com/Aboutus-Background.aspx>; Comcast Comments at 48; FTTH Council Comments at 6-7; NCTA Comments at 22-23; Comcast Reply at 17.

⁵⁴² Movielink, LLC, *About Us*, at <http://www.movielink.com/store/web/about/about.jsp>; Comcast Comments at 36 n.151, 48; FTTH Council Comments at 6-7; NCTA Comments at 23.

⁵⁴³ 2005 Report, 21 FCC Rcd at 2568 ¶ 139.

⁵⁴⁴ Microsoft’s Xbox 360 enables users to access a selection of movies and broadcast television programming from various content providers, including CBS, MTV Networks, Paramount Pictures, Turner Broadcasting System Inc., Ultimate Fighting Championship, and Warner Brothers Home Entertainment. Microsoft Corporation, *Microsoft Integrates IPTV Software Platform with Xbox 360* (press release), Jan. 8, 2007, at <http://www.xbox.com/en-US/community/events/ces2007/microsoftintegratesiptvsoftwareplatform.htm>; Microsoft Corporation, *Xbox 360 Unveils First Wave of TV Shows and Movies on Xbox Live* (press release), Nov. 22, 2006, at <http://www.microsoft.com/presspass/press/2006/nov06/11-22LiveTVMoviesPR.msp>; Microsoft Corporation, *Watch Movies and TV on Your Xbox*, at <http://www.xbox.com/en-US/community/news/2006/1106-moviestv.htm>; CEA Comments at 6; DIRECTV Comments at 12. Microsoft is testing “Soapbox on MSN Video,” which allows Internet users to watch and post videos, rate and comment on videos, and share favorite videos with friends through e-mail. Microsoft Corporation, at <http://soapbox.msn.com>. Comcast Comments at 2, 36.

⁵⁴⁵ Amazon.com, Inc., *Amazon.com Unbox Video Downloads*, at http://www.amazon.com/gp/video/help/faq.html/ref=amb_link_3187542_2/102-9771533-6006548; FTTH Council Comments at 6-7; Comcast Comments at 2, 47-49; NCTA Comments at 23; Comcast Reply at 19 n.80.

⁵⁴⁶ See also Comcast Comments at 3-5; CEA Comments at 5-6.

offering seven of its most popular shows for streaming online.⁵⁴⁷ CBS offers three web-exclusive series, news programming, and full episodes of many of its hit prime time shows on its web site.⁵⁴⁸ NBC is introducing a video service that, in addition to offering its own content, will license the content of other producers. It also has partnered with Intel so that the online service will stream programming on-demand at a higher resolution than other Internet video providers.⁵⁴⁹ In addition, NBC Universal has built a digital studio dedicated to producing original web content, and it has four web networks, gettrio.com, brilliantbutcancelled.com, outzonetv.com, and televisionwithoutpity.com.⁵⁵⁰ As we reported in the past, some broadcast networks are offering advanced viewing of their programming on the web prior to distribution over-the-air television.⁵⁵¹ For example, Fox debuted the fourth season opening episode of *The O.C.* on its owned-and-operated stations' web sites and on MySpace.com a week before premiering the episode on broadcast television.⁵⁵² PBS now offers many episodes of *Frontline*, *NOVA*, and segments

⁵⁴⁷ ABC, Inc., at <http://abc.go.com/fsp/index.html>; Disney, *Disney-ABC Television Group's Emmy-Winning ABC.com Brings Back Enhanced, Ad-Supported Broadband Player This Month* (press release), Sept. 13, 2006, at http://corporate.disney.go.com/news/corporate/2006/2006_0913_abcbroadband.html; Comcast Comments at 40. See also CEA Comments at 6; NCTA Comments at 19.

⁵⁴⁸ CBS.com, at <http://www.cbs.com>; CBS Corporation, *Sling Media and CBS Announce Beta Test of New Delivery System for Video* (press release), January 10, 2007; Comcast Comments at 40. See also CBS Corporation, *CBS Brand Channel Launches Today on YouTube* (press release), Oct. 18, 2006; CBS Corporation, *Yahoo! News and CBS Television Stations Form Exclusive Partnership to Deliver Local News Video* (press release), Oct. 16, 2006; CBS Corporation, *CBS and YouTube Strike Strategic Content and Advertising Partnership* (press release), Oct. 9, 2006; CEA Comments at 6; NCTA Comments at 19.

⁵⁴⁹ NBC Universal, Inc., at <http://www.nbc.com/Video/>; Intel Corp., *NBC Universal and Intel to Deliver Series Premieres in Intel Viiv and Intel Centrino Platforms* (press release), Sept. 28, 2006; Comcast Comments at 2, 40; DIRECTV Comments at 12; NCTA Comments at 18-19.

⁵⁵⁰ Comcast Comments at 32; NBC Universal Inc., *Trio Pop Culture TV*, at <http://www.gettrio.com>; NBC Universal Inc., *Brilliant But Cancelled.com*, at <http://www.brilliantbutcancelled.com>; NBC Universal Inc., *OutZone TV.com*, at <http://outzonetv.com/>; *Television Without Pity*, at <http://www.televisionwithoutpity.com/> (visited Mar. 22, 2007); Maria Aspan, *A Division of NBC Buys Out One of Its Harshest Online Critics*, NEW YORK TIMES, Mar. 19, 2007, at C4.

⁵⁵¹ 2004 Report, 20 FCC Rcd at 2818-9 ¶ 116.

⁵⁵² Comcast Comments at 41. See also Fox, at <http://www.fox.com>; MySpace.com, *The OC*, at http://creative.myspace.com/VOD/oc/index.html; CEA Comments at 6; NCTA Comments at 19. Fox has entered into an agreement with Apple to offer episodes of its programming through Apple's iTunes service. See Apple, Inc., *Hit Programming from Fox Entertainment Group's Fox, FX, Speed, Fuel, and 20th Century Fox Television Library Now Available at iTunes* (press release), May 9, 2006, at <http://www.apple.com/pr/library/2006/may/09fox.html>; NCTA Comments at 24.

of *The News Hour* for free online,⁵⁵³ and *Nature* is available for free in podcast format.⁵⁵⁴ Furthermore, ABC, CBS, and NBC, sell episodes of their TV programs for download on Apple's iTunes service.⁵⁵⁵

159. Among the many nonbroadcast networks that provide video content directly on their web sites are CSTV Networks,⁵⁵⁶ Nickelodeon,⁵⁵⁷ Comedy Central,⁵⁵⁸ MTV,⁵⁵⁹ TV Land,⁵⁶⁰ the Food Network,⁵⁶¹ CMT,⁵⁶² Discovery,⁵⁶³ and the Weather Channel.⁵⁶⁴ Starz Entertainment Group operates a

⁵⁵³ Comcast Comments at 41. See also Public Broadcasting Service, at <http://www.pbs.org/>.

⁵⁵⁴ Public Broadcasting Service, *Available Podcasts*, at <http://www.pbs.org/podcasts/>; Comcast Comments at 41. Podcast refers to the application that enables portable video players, especially the Apple video iPod. See Apple, Inc., *iPod + iTunes*, at <http://www.apple.com/itunes/>; Comcast Comments at 14, 30 n.120, 42, 49 n.200, 54, 59; NCTA Comments at 19, 23-24; Comcast Reply at 17 n.69, 19.

⁵⁵⁵ Comcast Comments at 30 n.120; 42,54,58; NCTA Comments at 19, 23-24; CEA Comments at 5-6; NCTA Comments at 23-24. See also Apple Inc., *Stay Tuned to iTunes*, at <http://www.apple.com/itunes/store/tvshows.html> (visited Mar. 22, 2007).

⁵⁵⁶ CSTV Networks, Inc., *CSTV*, at <http://www.cstv.com>. CSTV provides hundreds of hours of streaming video directly from its web site. *Id.*; Comcast Comments at 31.

⁵⁵⁷ Viacom International, Inc., *TurboNick*, at <http://www.nick.com/turbonick/index.jhtml>. Nickelodeon recently upgraded its broadband video platform, "TurboNick," which allows users to create their own cartoons, create and trade playlists, and send videos through e-mail links. *Id.*; Comcast Comments at 31.

⁵⁵⁸ Comedy Central, *Show*, at <http://www.comedycentral.com/press/series/comedycentral-com.jhtml>. Comedy Central is developing twenty series especially for broadband, with another 40 under consideration. *Id.*; Comcast Comments at 31. See also Comedy Central, *Comedy Central.com to Premiere Two New Broadband Series* (press release), Oct. 25, 2006, at http://www.comedycentral.com/press/press_releases/2006/102506_two_new_bband_series.jhtml.

⁵⁵⁹ MTV Networks, at <http://www.mtv.com/overdrive/>. MTV's broadband site, "Overdrive," continues to offer video and experiment with providing programming that complements the programs being aired on its linear channel. *Id.*; Comcast Comments at 31. MTV Networks has launched a variety of exclusive Internet video programs through its broadband portals Overdrive, Uber, TurboNick, Vspot, and Loaded. Comcast Comments at 32.

⁵⁶⁰ Viacom International, Inc., *TV Land*, at <http://www.tvland.com/tvlhome.jhtml> and <http://www.tvland.com/video>. TV Land recently launched the TV Land video player that features full-length episodes of choice hit shows, including Star Trek, as well as sneak peaks of originals. *Id.*; Comcast Comments at 31.

⁵⁶¹ Scripps Networks, Inc., *Food Network Video Center*, at http://www.foodnetwork.com/food/video_guide/. The Food Network is providing its second Internet series, *Dave Does*, after its first Internet offering *Eat This*, logged 1 million page views in its first two weeks. *Id.*; Comcast Comments at 32.

⁵⁶² Country Music Television, Inc., *CMT Loaded*, at <http://www.cmt.com/loaded/player.jhtml?launchedFrom=loaded>. CMT launched "CMT Loaded," an online portal offering more than 500 clips of performances, interviews, and original video. The CMT video library is projected to total 300 clips per month. *Id.*; Comcast Comments at 32.

⁵⁶³ Discovery Communications, Inc., *Discovery Communications Expands Content Offering on Google Earth* (press release), Sept. 18, 2006. Discovery Communications added a webcast feature to its online news service that offers news clips about developments ranging from scientific discoveries to health information. *Id.*, Comcast Comments at 32.

video download service called Vongo.⁵⁶⁵ Newspapers also are increasingly adding video and other multimedia content to their web sites. As a result of these new sources of video programming, the National Academy of Television Arts and Sciences has created an Emmy award category to honor "original news and documentary created specifically for non-traditional viewing platforms."⁵⁶⁶

160. Internet video distribution also has become a means by which some new programming networks are developing audience interest in their programming. VoyTV and BlueHighwaysTV are among those using the Internet to distribute video absent an agreement for distribution as a linear network with one of the major MVPDs.⁵⁶⁷

161. Cable operators also are starting to experiment with online video offerings. Comcast launched a new network, called FearNet, using only the Internet and video-on-demand.⁵⁶⁸ In addition, Comcast uses its web portal, comcast.net, to provide subscribers with a variety of video content.⁵⁶⁹ For example, Comcast has entered into an agreement with Jump TV to allow Comcast's Internet subscribers to view 225 TV channels from around the world.⁵⁷⁰ In addition, Comcast recently launched Ziddio, a web site that allows users to post original video content. Video clips that are highly rated by other users are then offered on Comcast's cable video-on-demand service.⁵⁷¹

162. **Downloadable Content for Portable Devices.** Downloading video from the Internet to portable video players, especially the Apple video iPod, has gained popularity in the past year and demonstrates consumer demand for the ability to watch video content on a portable device.⁵⁷² Traditional and new content producers alike are offering their programming for download onto mobile devices. In

(Continued from previous page)

⁵⁶⁴ The Weather Channel Interactive, Inc., *Video-on-Demand*, http://www.weather.com/multimedia/videoplayer.html?clip=1073&collection=topstory&nav=84&from=gn_six_welcome. The Weather Channel has introduced a new broadband site, called *One Degree*, that features videos dedicated to the subject of global warming. The Weather Channel Interactive, Inc., *One Degree*, at <http://climate.weather.com/?from=footer>; Comcast Comments at 32.

⁵⁶⁵ Vongo is an Internet video download service that provides a selection of titles on demand to personal computers or portable media devices. Starz Entertainment, LLC, *Our Channels*, at http://www.starz.com/appmanager/seg/s?_nfpb=true&_pageLabel=our_channels; Comcast Comments at 48; DIRECTV Comments at 12; NCTA Comments at 24.

⁵⁶⁶ National Academy of Television Arts & Sciences, *Nominees for the First Emmy Award For Internet, Cellphones, and iPods Announced* (press release), April 10, 2006; Comcast Comments at 58.

⁵⁶⁷ Voy, LLC., *Voy TV*, at <http://www.voytv.com/#pagekeep::p,hot::b,HotContext::g,1>; Network Creative Group, LLC, *BlueHighways.com: About*, at <http://www.bluehighwaystv.com/pgabout.cfm>; Comcast Comments at 33.

⁵⁶⁸ *Id.* at 33.

⁵⁶⁹ *Id.* at 70-71.

⁵⁷⁰ *Id.* at 70.

⁵⁷¹ *Id.* at 71; Comcast Corp., *Ziddio*, at <http://www.ziddio.com/ui.zd?dispatch=homepage>; FTTH Council Comments at 6-7.

⁵⁷² Apple, Inc., *iPod + iTunes*, at <http://www.apple.com/itunes/>; Comcast Comments at 14, 30 n 120, 42, 49 n.200, 54, 58. DIRECTV Comments at 12; NCTA Comments at 19, 23-24; Comcast Reply at 17 n.69, 19.

addition to the increasing popularity of Apple's iTunes download service and its iPod video player, other portable media devices, such as EchoStar's PocketDish, are becoming popular.⁵⁷³

163. **Internet Video for Viewing on a Television Set.** Several video services continue to utilize a set-top box that accesses the Internet to receive video for viewing on a television set. As we reported last year, Akimbo is one such Internet video-on-demand service that continues to attract investment. It delivers more than 8,000 on-demand programs, including travel shows, documentaries, music videos, full-length films, sporting events, television series, and HD content from the Internet to a set top box connected to its subscribers' television sets.⁵⁷⁴ Apple currently offers a wireless device that transmits movies from laptops to television set-top boxes for viewing on a television set.⁵⁷⁵ In addition, TiVo offers a TiVo Cast, a free service that allows its subscribers to watch Internet video clips through a broadband-connected TiVo device attached directly to their televisions.⁵⁷⁶

2. Home Video Sales and Rentals

164. In last year's *Report*, we observed that VOD services provided by cable, DBS, and Internet providers have emerged as a competitive alternative to home video.⁵⁷⁷ Home video, such as Netflix delivered to the home and retail-based options, offers some level of competition to broadcast television, cable television, DBS, and other MVPDs because it offers services similar to premium and pay-per-view offered by MVPDs.⁵⁷⁸

165. For the first time in 2006, the number of DVD households surpassed the number of VHS households. Nielsen research shows that 81.2 percent of households own a DVD player, compared to 79.2 percent that own a VCR.⁵⁷⁹ Consumers purchased 33 million DVD players in the last year, contributing to a 6 percent increase in the rate of DVD penetration in the U.S.⁵⁸⁰ DVD rentals increased by \$1 billion to \$7.5 billion over the last year.⁵⁸¹ One study indicates that DVD households rent DVDs an

⁵⁷³ "PocketDish" is a mobile video device that EchoStar offers as a companion to its DBS service. NCTA Comments at 23, 26. See also Section II.B *supra*.

⁵⁷⁴ Akimbo Systems, *About*, at <http://www.akimbo.com/about.html>; Comcast Comments at 36. See also Vodi Reply at 2.

⁵⁷⁵ Apple, Inc., *AppleTV*, <http://www.apple.com/appletv/>; Comcast Comments at 2, 5, 48-49.

⁵⁷⁶ TiVo, Inc., *TiVoCast*, at <https://www3.tivo.com/tivo-tco/cds/index.do>; Comcast Comments at 42 n 174, 58; FTTH Council Comments at 6-7.

⁵⁷⁷ *2005 Report*, 21 FCC Rcd at 2569 ¶ 140.

⁵⁷⁸ *2005 Report*, 21 FCC Rcd at 2569 ¶ 140. See also *2003 Report*, 19 FCC Rcd at 1675 ¶ 108.

⁵⁷⁹ Nielsen Media Research, at <http://www.nielsenmedia.com/nc/portal/site/Public/menuitem.55dc65b4a7d5adff3f65936147a062a0/?vgnextoid=4673a1bcb279f010VgnVCM100000ac0a260aRCRD> (visited Jan. 24, 2007).

⁵⁸⁰ Mike Snider, *Home Video Spending Records Another Decline*, USA TODAY, Jan. 8 2007 ("Snider Home Video"), at D-1.

⁵⁸¹ *Id.*

average of twice per month, while VCR households rent only once per month.⁵⁸² Further, DVD movie sales rose, but at a slower pace, increasing by \$300 million from \$16.3 to \$16.6 billion in 2006.⁵⁸³ In terms of unit sales, DVD sales grew only 4 percent in the first half of 2006, half the growth rate experienced in the first half of 2005.⁵⁸⁴ Consumer DVD sales and rentals have yet to compensate for lost VHS sales and rentals. Since 2004, total home video revenues decreased by \$300 million from \$24.5 to \$24.2 billion.⁵⁸⁵ Whereas VHS spending topped \$3 billion in 2004, last year's VHS spending accounted for only \$100 million.⁵⁸⁶ One factor contributing to the increase in DVD sales is the increased availability of previously broadcast television programs.⁵⁸⁷ Television shows on DVD accounted for 9 percent of home video sales last year, an increase of 2 percent over the previous year.⁵⁸⁸

166. Consumers can now choose from more than 51,000 titles on DVD, compared to 47,000 a year ago.⁵⁸⁹ Besides traditional video retailers, consumers are able to purchase or rent home video products through an increasing number of outlets. DVDs and videocassettes can be purchased at mass market chains (e.g., Target, Wal-Mart), specialty retailers (e.g., Bed Bath & Beyond, Starbucks), and over the Internet from online retailers (e.g., Amazon).⁵⁹⁰ Rental options also continue to expand. For example, Redbox now operates automated rental kiosks in grocery stores and at McDonalds restaurants.⁵⁹¹ Netflix maintains an online distribution with 6 million subscribers that accounted for 12 percent of the DVD rental market and \$1 billion in revenue in 2006.⁵⁹² Netflix also introduced a new online service to rent videos via streaming technology, as opposed to purchasing and download technology used by competitors (e.g., iTunes, Vongo).⁵⁹³ As a result of these other sources of home videos, Blockbuster and other major video retailers now compete on all levels by offering sales, rentals, and online services.⁵⁹⁴

⁵⁸² Nielsen Media Research, at <http://www.nielsenmedia.com/nc/portal/site/Public/menuitem.55dc65b4a7d5adff3f65936147a062a0/?vgnnextoid=4673a1bcb279f010VgnVCM100000ac0a260aRCRD> (visited Jan. 24, 2007).

⁵⁸³ Snider Home Video at D1.

⁵⁸⁴ NPD Group, Inc., *The NPD Group: TV-DVDs Soften Video Sales Decline* (press release), Oct. 24, 2006.

⁵⁸⁵ Snider Home Video at D1.

⁵⁸⁶ *Id.*

⁵⁸⁷ Comcast Comments at 46.

⁵⁸⁸ NPD Group, Inc., at http://www.npd.com/press/releases/press_061024.html (visited Jan. 24, 2007).

⁵⁸⁹ The Digital Entertainment Group, *Study Shows DVD Has Moved beyond the Living Room into All Aspects of Consumers' Lives; a Variety of Players Are Available to Fuel This Trend for the Holidays* (press release), Nov. 17, 2005. See also 2005 Report, FCC 21 Rcd at 2569 ¶ 141.

⁵⁹⁰ See Comcast Comments at 47.

⁵⁹¹ *Id.*

⁵⁹² Miguel Helft, *The Shifting Business of Renting Movies, By the Disc or the Click*, NEW YORK TIMES, Jan. 16, 2007, at C-1.

⁵⁹³ Michael Liedtke, *Netflix Offers Instant Access*, USA TODAY, Jan. 16, 2007, at B-5.

⁵⁹⁴ Blockbuster, at <http://www.blockbuster.com> (visited Jan. 29, 2007).

167. The introduction of Sony's Blu-ray and Microsoft's HD DVD discs are bringing a new generation of pre-recorded HD content into the home.⁵⁹⁵ These formats are not compatible with each other. Sony's Blu-ray format, developed for use in the Playstation 3, is supported by Disney and 20th Century Fox, among others. HD DVD was developed for use in the Microsoft Xbox 360, and is supported, among others, by Toshiba and Universal.⁵⁹⁶ To address the noncompatibility issue, Warner and LG Electronics have introduced a combination Blu-ray/HD disc and combination Blu-ray/HD player, respectively.⁵⁹⁷ Termed "Total HD," the new dual format has attracted support from Amazon, Cinram, and Warner-owned subsidiaries, such as HBO and New Line.⁵⁹⁸ One study indicates that consumers are expected to purchase 9 million high-definition DVD devices by the end of 2007.⁵⁹⁹

III. MARKET STRUCTURE AND CONDITIONS AFFECTING COMPETITION

A. Market Structure and Ownership Issues

168. The video programming marketplace is comprised of a retail market for the distribution of multichannel video programming to consumers, and a program supply market for the purchase of video programming by MVPDs.⁶⁰⁰ In this section, we first review changes in the marketplace for the distribution of video programming, including changes in the level of competition in that market between June 2005 and June 2006. We then review the marketplace for the purchase of video programming by MVPDs, examining the effects that changes in concentration among MVPDs at the national and regional levels have had on this marketplace in the last year.

1. Competitive Issues in the Retail Market for the Distribution of Video Programming to Consumers

169. In the past year, incumbent cable operators' share of all MVPD subscribers continued to decline. As of June 30, 2006, cable operators served 68.2 percent of MVPD subscribers, compared to 69.4 percent of MVPD subscribers a year earlier. DBS, the major wireless MVPD technology that is available to subscribers nationwide, saw its share of MVPD subscribers increase between June 2005 and June 2006, from 27.7 percent of the market to 29.2 percent. Relatively few consumers have a second wireline alternative, such as an overbuild cable system, as indicated by the small number of subscribers to BSPs and LECs.⁶⁰¹ Several other MVPD technologies, such as private cable systems and wireless cable

⁵⁹⁵ CEA Comments at ii, 13.

⁵⁹⁶ Video Business Online, at <http://www.videobusiness.com/index.asp?layout=articlePrint&articleID=CA6406192> (visited Jan. 24, 2007).

⁵⁹⁷ *Id.*

⁵⁹⁸ *Id.*

⁵⁹⁹ *Id.*

⁶⁰⁰ The market descriptions included in this *Report* are tentative in nature, and are subject to potential revisions by the Commission in future proceedings, merger reviews, or reports. Any individual proceeding in which the Commission defines relevant product and geographic markets, such as an application for approval of a license transfer, may present facts pointing to narrower or broader markets than any used, suggested, or implied in this *Report*.

⁶⁰¹ See ¶¶ 101-102, 132-133 *supra*. See also Appendix B, Table B-1.

systems, offer consumers alternatives to incumbent cable services, but only in limited areas. Incumbent cable and DBS operators provide MVPD service to over 97 percent of all MVPD households. The combined share of the other MVPD alternatives provide MVPD service to less than 3 percent of MVPD households.

170. In the *Notice*, we requested comment on the impact of the regulatory environment and barriers to entry on competition in the MVPD marketplace, including the impact of the local franchise process on new providers' entry into local markets.⁶⁰² In comments submitted in response to the *Notice*, franchising authorities argued that they have promoted competition and that their build-out requirements balance the economic interests of the operator with the interests of the community.⁶⁰³ Cable operators argued that franchise requirements have not impeded LEC entry into the video marketplace and maintained that a level playing field must exist for all providers and across all services.⁶⁰⁴ LMC/MACTA contended that local government is the only entity that can adequately monitor and ensure rapid, safe, and efficient deployment of cable services when they are installed on a community level utilizing local rights-of-way.⁶⁰⁵ Because citizens' interest in PEG programming varies from place to place and over time, the Maryland Counties state, it makes sense for local communities to establish PEG requirements through periodic renegotiation of franchise agreements.⁶⁰⁶ They urge the Commission not to infringe upon local communities' rights to determine, and require cable operators to meet, their needs and interests, including the allocation of resources for PEG channels as well as new ways to deliver PEG programming, such as "PEG-on-demand."⁶⁰⁷ NYC echoes the sentiments observing that because local needs and conditions vary widely across the country, local governments are best equipped to handle such tasks as negotiating for the allocation of cable capacity for PEG channels and for the provision of institutional networks.⁶⁰⁸

171. During the pendency of this proceeding, the Commission adopted rules to implement Section 621(a)(1) of the Communications Act, which prohibits local franchising authorities ("LFAs") from unreasonably refusing to award competitive franchises for the provision of cable services and also

⁶⁰² *Notice*, 21 FCC Rcd at 12233-34 ¶¶ 9-12.

⁶⁰³ NATOA Comments at 2-3 and Reply at 2-4. *See also* Burnsville Comments at 1; St. Croix Comments at 1; Champaign-Urbana Comments at 1; Champaign Comments at 1; Fort Worth Comments at 1-2; Green Spring Comments at 1; Jenkins Comments at 1; Minneapolis Comments at 1; Wheaton Comments at 1; Forest Park Comments at 1; Elk Grove Comments at 1; Evanston Comments at 1; GMTCC/RCC Comments at 1; Hoffman Estates Comments at 1; Lake Minnetonka Comments at 1; Mt. Hood Comments at 1; Northbrook Comments at 1; NDC4 Comments at 1; NSCC Comments at 1; Queen Anne's Comments at 1; SMCTC Comments at 1; Skokie Comments at 1; West Central Comments at 1; Sycamore Reply at 1 (supporting NATOA's comments). *See also* Maryland Counties Comments at 1, 12-13, 14-16; Naperville Comments at 2-4; GMTCC/RCC Comments at 2; LMC/MACTA Comments at 3-4, 16-17; Consumers Union Reply at 1-2; NYC Comments at 1-3.

⁶⁰⁴ Comcast Comments at 22-27. *See also* NCTA Comments at 15-17; Cox Reply at 8-9; IMCC Reply at 5.

⁶⁰⁵ LMC/MACTA Comments at 3-4.

⁶⁰⁶ Maryland Counties Comments at 17-20.

⁶⁰⁷ *Id.* at 20-21.

⁶⁰⁸ NYC Comments at 3-4. An institutional network (also called an I-Net) is defined as a communication network that is constructed or operated by the cable operator and that is generally available only to subscribers who are not residential customers. *See* 47 U.S.C. § 531(f).